

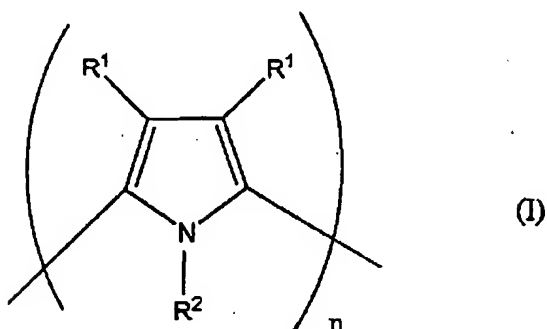
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Docket No.: UC0401USNA

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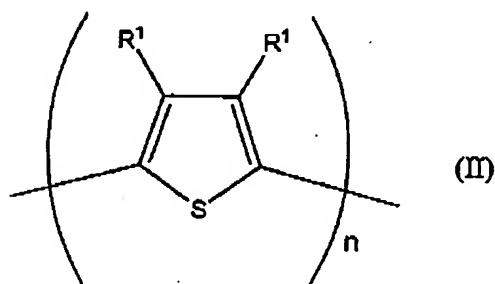
Listing of Claims

1 -2. (Canceled)

3. (Previously Presented) The composition according to claim 24, wherein said polypyrrole has Formula I



and said polythiophene has Formula II



where in Formula I and Formula II:

R¹ is independently selected so as to be the same or different at each occurrence and is selected from the group consisting of hydrogen, alkyl, alkenyl, alkoxy, alkanoyl, alkythio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, acrylic acid, phosphoric acid, phosphonic acid,

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halogen, nitro, cyano, hydroxyl, epoxy, silane, siloxane, alcohol, amidosulfonate, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, and urethane; or both R¹ groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more atoms selected from the group consisting of divalent nitrogen, sulfur and oxygen atoms; and

n is at least 4;

where in Formula I:

R² is independently selected so as to be the same or different at each occurrence and is selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, alkanoyl, alkylthioalkyl, alkylaryl, arylalkyl, amino, epoxy, silane, siloxane, alcohol, amidosulfonate, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, sulfonate, and urethane.

4-5. (Canceled)

6. (Previously Presented) The composition according to Claim 3, wherein the polymer is a polypyrrole having Formula I and R¹ and R² are hydrogen.

7. (Previously Presented) The composition according to Claim 3, wherein both R¹ together form a 6- or 7-membered alicyclic ring, which is further substituted with a group selected from the group consisting of alkyl, heteroalkyl, alcohol, amidosulfonate, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, sulfonate, and urethane.

8. (Previously Presented) The composition according to Claim 3, wherein the polymer is a polythiophene having Formula II and R¹ together form -O-(CHY)_m-O-, where m is 2 or 3, and Y is the same or different at each occurrence and is selected from hydrogen, alkyl, alcohol, amidosulfonate, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, sulfonate, and urethane.

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9. (Previously Presented) The composition according to Claim 8, wherein all Y are hydrogen and m is 2.
10. (Canceled)
11. (Previously Presented) The composition according to Claim 24 having a pH of from 1 to 8.
12. (Previously Presented) The composition according to Claim 24, wherein said composition further comprises at least one selected from the group consisting of a conductive polymer, metal particles, graphite fibers, graphite particles, carbon nanotubes, carbon nanoparticles, metal nanowires, organic conductive inks, organic conductive pastes, inorganic conductive inks, inorganic conductive pastes, charge transport materials, semiconductive inorganic oxide nano-particles, insulating inorganic oxide nano-particles, piezoelectric oxide nano-particles, piezoelectric polymers, pyroelectric oxide nano-particles, pyroelectric polymers, ferroelectric oxide nano-particles, ferroelectric polymers, dispersing agents, crosslinking agents and combinations thereof.
13. (Previously Presented) The composition according to Claim 24, wherein said polymeric sulfonic acid comprises a perfluoroalkylenesulfonic acid.
14. (Previously Presented) A method for producing a composition comprising:
polymerizing at least one monomer selected from the group consisting of a pyrrole, a thiophene, and a combination thereof in the presence of at least one colloid-forming polymeric acid in an aqueous liquid medium, to form an aqueous dispersion,
removing an amount of aqueous liquid medium from the aqueous dispersion to form partially dried solids, and
dispersing the partially dried solids in at least one high boiling organic liquid.

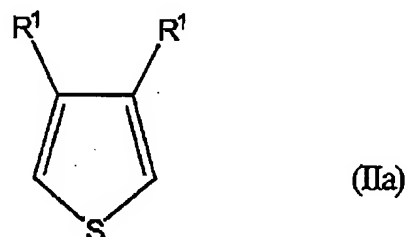
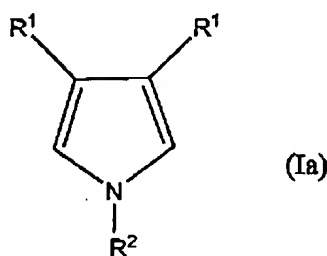
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15. (Previously Presented) The method according to Claim 14 wherein polymerization is carried out by forming a combination of water, at least one monomer selected from the group consisting of a pyrrole, a thiophene, and mixtures thereof, at least one colloid-forming polymeric acid, and at least one selected from the group consisting of an oxidizing agent, catalyst and mixtures, in any order, provided that at least a portion of the colloid-forming polymeric acid is present when at least one of the monomer and the oxidizer, catalyst or mixture is added.

16. (Previously Presented) The method according to Claim 14, wherein the colloid-forming polymeric acid is selected from polymeric sulfonic acids, polymeric carboxylic acids, polymeric acrylic acids, polymeric phosphoric acid, polymeric phosphonic acids, and mixtures thereof.

17. (Previously Presented) The method according to Claim 14, wherein said pyrrole monomer has Formula Ia and said thiophene monomer has Formula IIa:



wherein in Formula Ia and Formula IIa:

R¹ is independently selected so as to be the same or different at each occurrence and is selected from the group consisting of hydrogen, alkyl, alkenyl, alkoxy, alkanoyl, alkylthio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, acrylic acid, phosphoric acid, phosphonic acid, halogen, nitro, cyano, hydroxyl, epoxy, silane, siloxane, alcohol, amidosulfonate, benzyl,

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carboxylate, ether, ether carboxylate, ether sulfonate, and urethane; or both R^1 groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more atom selected from group consisting of divalent nitrogen, sulfur and oxygen atoms; and where in Formula I:

R^2 is independently selected so as to be the same or different at each occurrence and is selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, alkanoyl, alkylthioalkyl, alkylaryl, arylalkyl, amino, epoxy, silane, siloxane, alcohol, amidosulfonate, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, sulfonate, and urethane.

18. (Previously Presented) The method according to Claim 14, wherein said organic liquid has a boiling point of at least 100°C.

19. (Previously Presented) The method according to Claim 14, wherein said organic liquid is selected from the group consisting of glycols, glycol ethers, alcohols, alcohol ethers, cyclic ethers, ketones, nitriles, sulfoxides, amides, and combinations thereof.

20. (Previously Presented) The method according to Claim 14, wherein said organic liquid is selected from the group consisting of N-methylpyrrolidone, ethylene glycol, dimethylacetamide, dimethyl formamide, dimethylsulfoxide, and combinations thereof.

21. (Previously Presented) The method according to Claim 14, further comprising adding at least one selected from the group consisting of a conductive polymer, metal particles, graphite fibers, graphite particles, carbon nanotubes, carbon nanoparticles, metal nanowires, organic conductive inks, organic conductive pastes, inorganic conductive inks, inorganic conductive pastes, charge transport materials, semiconductive inorganic oxide nano-particles, insulating inorganic oxide nano-particles, piezoelectric oxide nano-particles, piezoelectric polymers, pyroelectric oxide

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nano-particles, pyrroelectric polymers, ferroelectric oxide nano-particles, ferroelectric polymers, dispersing agents, crosslinking agents and combinations thereof.

22. (Previously Presented) An organic electronic device comprising a layer comprising the composition of Claim 24.

23. (Previously Presented) The organic electronic device according to Claim 22 wherein said device is selected from group consisting of a photosensor, photoswitch, phototransistor, photoconductive cell, photoresistor, biosensor, phototube, IR detectors, photovoltaic device, solar cell, light-emitting diode, light-emitting diode display, electrochromic display, thin film transistor, electromagnetic shielding device, photodiode, solid electrolyte capacitors, field effect resistance device, memory storage device, and diode laser.

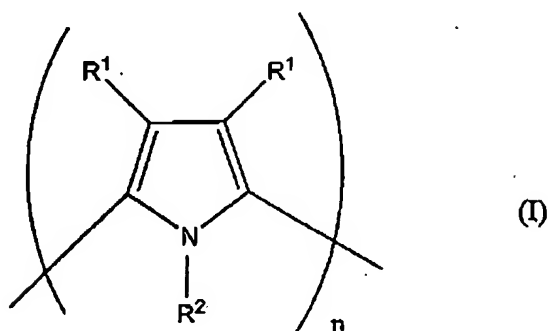
24. (Previously Presented) A composition comprising at least one polymer selected from the group consisting of a polypyrrole, a polythiophene, and a combination of such polymers, and at least one colloid-forming fluorinated polymeric sulfonic acid dispersed in a liquid medium comprising at least 60% by weight at least one organic liquid.

25. (Previously Presented) The composition according to Claim 24, wherein the organic liquid is 80 to 90% by weight of the liquid medium.

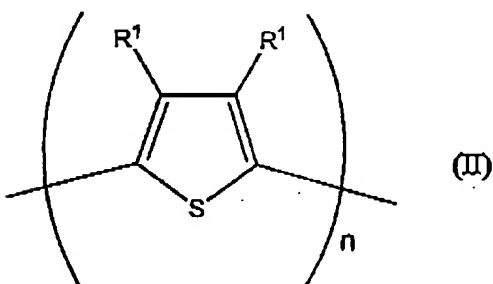
26. (Canceled)

27. (Previously Presented) The composition according to Claim 24, wherein said polypyrrole has Formula I

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and said polythiophene has Formula II



where in Formula I and Formula II:

R^1 is the same or different at each occurrence and is independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkoxy, cycloalkyl, cycloalkenyl, alcohol, amidosulfonate, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, sulfonate, urethane, epoxy, silane, siloxane, and alkyl substituted with one or more selected from sulfonic acid, carboxylic acid, acrylic acid, phosphoric acid, phosphonic acid, halogen, nitro, cyano, hydroxyl, epoxy, silane, and siloxane moieties;

n is at least 4; and

where in Formula I:

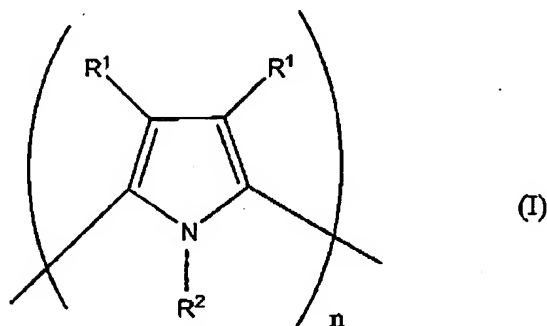
R^2 is independently selected so as to be the same or different at each occurrence and is selected from hydrogen, alkyl, alkenyl, aryl, alkanoyl, alkylthioalkyl, alkylaryl, arylalkyl, amino, epoxy, silane, siloxane, alcohol, amidosulfonate,

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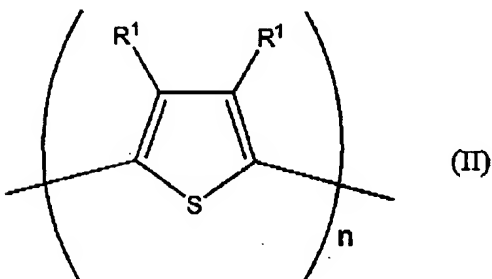
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benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, sulfonate, and urethane.

28. (Previously Presented) The composition according to Claim 24, wherein said polypyrrole has Formula I



and said polythiophene has Formula II



where in Formula I and Formula II:

R¹ is independently selected so as to be the same or different at each occurrence and is selected from the group consisting of hydrogen, alkyl, alkenyl, alkoxy, alkanoyl, alkythio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, acrylic acid, phosphoric acid, phosphonic acid, halogen, nitro, cyano, hydroxyl, epoxy, silane, siloxane, alcohol, amidosulfonate, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, and urethane; or

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both R^1 groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more atom selected from the group consisting of divalent nitrogen, sulfur and oxygen atoms; and

n is at least 4;

where in Formula I:

R^2 is independently selected so as to be the same or different at each occurrence and is selected from the group consisting of hydrogen, alkyl, and alkyl substituted with one or more selected from sulfonic acid, carboxylic acid, acrylic acid, phosphoric acid, phosphonic acid, halogen, cyano, hydroxyl, epoxy, silane, and siloxane moieties.